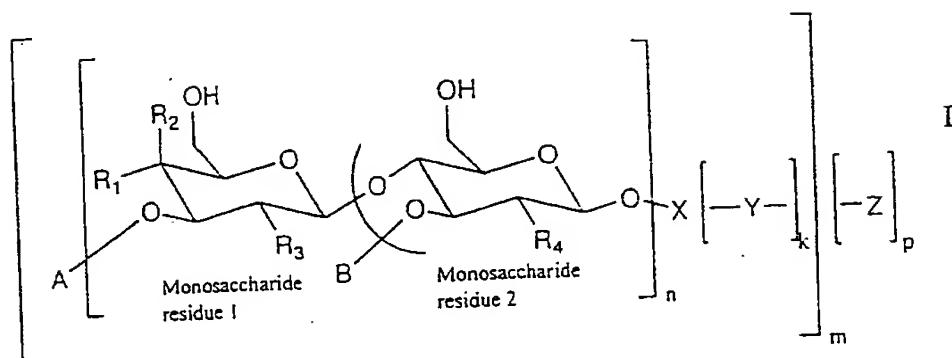


List of Claims

1-18. (Canceled)

19. (NEW) Oligosaccharides having the formula



wherein A is H or a glycosidically β 1-3 linked D-glucopyranosyl residue (Glc β 1-3), R₁ is OH, R₂ is H and R₃ is OH, acylamido or -NH-acyl (i.e. monosaccharide 1 is Glc or GlcNAcyl) or R₁ is H, R₂ is OH and R₃ is acetamido or -NHCOCH₃ (i.e. monosaccharide 1 is GalNAc); B is H, an α -L-fucosyl or an α -L-fucosyl analogue, and R₄ is OH, acetamido or -NHCOCH₃ (i.e. monosaccharide 2 is optionally fucosylated Glc or GlcNAc), the curved line between the saccharide units indicating that the monosaccharide 1 is β 1-4 linked to monosaccharide 2 when B is linked to the position 3 of the monosaccharide 2, and the monosaccharide 1 is β 1-3 linked to monosaccharide 2 when B is linked to the position 4 of the monosaccharide 2, monosaccharide 1 is GalNAc only when

monosaccharide 2 is Glc, n is 1 to 100, with the proviso that there is always at least one α -fucosyl or α -fucosyl analogous group present in the molecule, and p and k are 0 or 1, and $1 \leq m \leq 1000$, X is a monosaccharide selected from the group consisting of Glc, GlcNAc, Gal or GalNAc, optionally in reduced form, or oligosaccharide containing one or more of said monosaccharide units, the monosaccharide 2 being β 1-3 or β 1-4 linked to saccharide X, Y is a spacer or linking group capable of linking X to Z, and Z is a mono- or polyvalent carrier molecule.

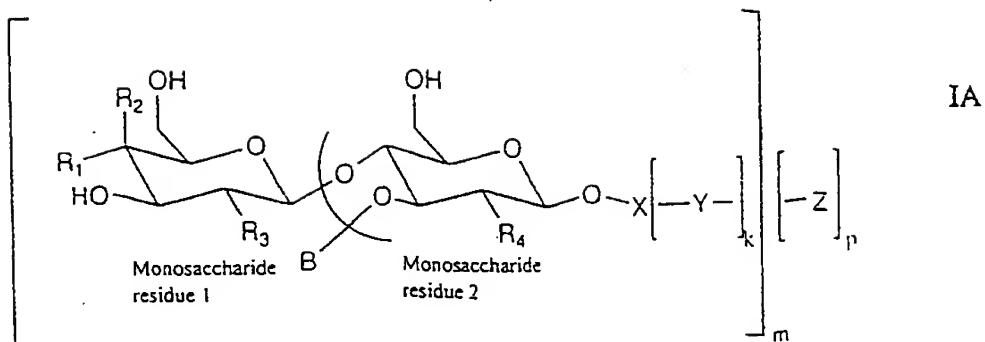
20. (NEW) The oligosaccharides according to claim 19, wherein B is α -L-fucosyl.

21. (NEW) The oligosaccharides according to claim 20, wherein monosaccharide 1 is Glc or GlcNAc.

22. (NEW) The oligosaccharides according to claim 19, wherein m is 1 to 100, and n is 1 to 10.

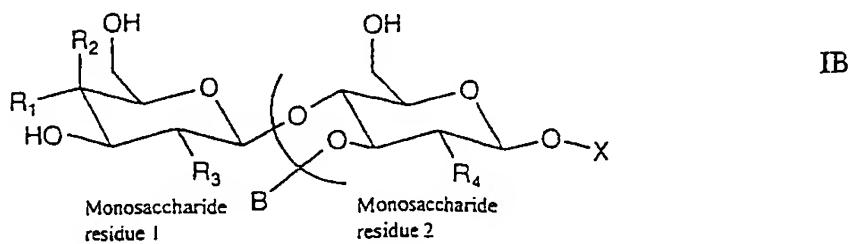
23. (NEW) The oligosaccharides according to claim 22, wherein m is 1 to 10.

24. (NEW) The oligosaccharides according to claim 19, wherein they have the formula

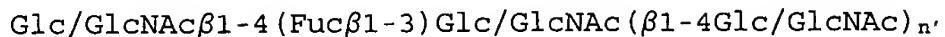


wherein the symbols have the meanings given in connection with the formula I in claim 19, and wherein the monosaccharides 1 and 2 are independently Glc and GlcNAc, B is L-fucosyl, and X is Glc or GlcNAc or a β 1-3 or β 1-4 linked oligomer comprising up to 10 units of Glc and/or GlcNAc.

25. (NEW) The oligosaccharides according to claim 19, wherein A is H and the monosaccharides 1 and 2 are independently Glc or GlcNAc, B is L-fucosyl, p and k = 0 and n = m = 1, and X is Glc or GlcNAc or a β 1-3 or β 1-4 linked oligomer comprising up to 10 units of Glc and/or GlcNAc having the formula



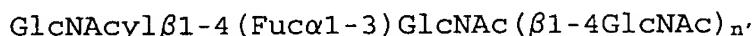
26. (NEW) The oligosaccharides according to claim 19 having the formula



wherein n' is the integer 1 to 8.

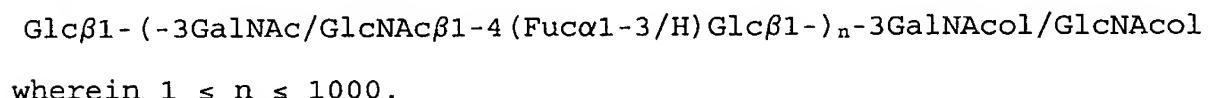
27. (NEW) The oligosaccharides according to claim 26, wherein n' is the integer 1 to 6.

28. (NEW) The oligosaccharides according to claim 19 having the formula

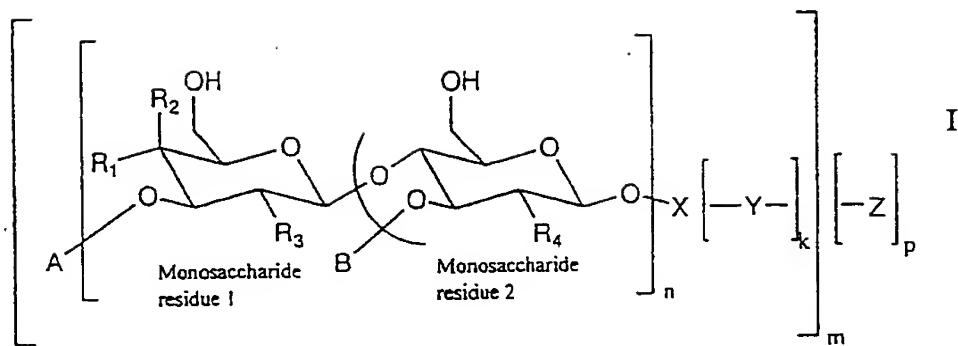


wherein n' is the integer 1 to 8 and acyl is an alkanoyl group which contains 8 to 24 carbon atoms and 1 to 3 double bonds.

29. (NEW) The oligosaccharides according to claim 19 having the formula



30. (NEW) A process for the preparation of oligosaccharides having the formula



wherein A is H or a glycosidically β 1-3 linked D-glucopyranosyl residue (Glc β 1-3), R₁ is OH, R₂ is H and R₃ is OH, acylamido or -NH-acyl (i.e. monosaccharide 1 is Glc or GlcNAcyl) or R₁ is H, R₂ is OH and R₃ is acetamido or -NHCOCH₃ (i.e. monosaccharide 1 is GalNAc); B is H, an α -L-fucosyl or an α -L-fucosyl analogue, and R₄ is OH, acetamido or -NHCOCH₃ (i.e. monosaccharide 2 is optionally fucosylated Glc or GlcNAc), the curved line between the saccharide units indicating that the monosaccharide 1 is β 1-4 linked to monosaccharide 2 when B is linked to the position 3 of the monosaccharide 2, and the monosaccharide 1 is β 1-3 linked to monosaccharide 2 when B is linked to the position 4 of the monosaccharide 2, monosaccharide 1 is GalNAc only when monosaccharide 2 is Glc, n is 1 to 100, with the proviso that there is always at least one α -fucosyl or α -fucosyl analogous group present in the molecule, and

i) p and k are 0 and m is 1, in which case X is H, an aglycon residue or a monosaccharide selected from the group consisting of

Glc, GlcNAc, Gal or GalNAc, optionally in reduced form, or oligosaccharide containing one or more of said monosaccharide units, the monosaccharide 2 being β 1-2, β 1-3, β 1-4 or β 1-6 linked to saccharide X, with the proviso that X is not H when both monosaccharides 1 and 2 are GlcNAc, B is L-fucosyl and n is 1 or

ii) p is 1, k is 0 or 1 and $1 \leq m \leq 1000$, in which case X is a straight bond, or a mono- or oligosaccharide as defined under i), Y is a spacer or linking group capable of linking the saccharide 2 or X to Z, and Z is a mono- or polyvalent carrier molecule,

said process being characterized in that a compound of the formula I, wherein B is always H, is fucosylated with donor nucleotide sugar containing L-fucose, or an analogue thereof, in the presence of a fucosyl transferase enzyme, and the fucosylated saccharide so prepared is optionally recovered.

31. (NEW) The process according to claim 30, wherein the fucosyltransferase is mammalian α 1-3 or α 1-3/4 fucosyltransferase.

32. (NEW) The process according to claim 30 or 31, wherein a N-acetyl-chitooligosaccharide is used as the starting material.

33. (NEW) The process according to claims 30 or 31, wherein the donor nucleotide sugar containing L-fucose is GDP-L-fucose.

34. (NEW) The process according to claim 31, wherein the fucosyltransferase is human α 1-3 fucosyltransferase or α 1-3/4 fucosyltransferase III-VII, IX or α 1-3/ α 1-3/4 fucosyltransferase of human milk.

35. (NEW) The process according to any one of claims 30, 31 or 34, wherein it comprises the further step of reacting the product obtained with the formula I with β -N-acetyl-hexosaminidase.

36. (New) The oligosaccharides of claim 19, wherein monosaccharide residue I is Glc.

37. (New) The oligo saccharides of claim 19, wherein monosaccharide residue I is GlcNAcyl.

38. (New) The oligosaccharides of claim 19, wherein monosaccharide residue I is GalNAc.

39. (New) The oligosaccharides of claim 19, wherein monosaccharide residue II is fucosylated Glc.

40. (New) The oligosaccharides of claim 19, wherein
monosaccharide residue II is fucosylated GlcNAc.